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Missing links between urban economic growth theory and real estate development processes: Economic growth and building investments in the city of 's-Hertogenbosch

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Summary

Recent contributions to the literature on urban economic theory focus mainly on the relations between changes in the organization of firms and the spatial restructuring of urban regions. In this respect, it is argued that changes in the production system result in new locational preferences of firms and consequently in changes in the spatial pattern of cities. In this paper we stress the relevance of both shifts in the organization of firms and markets with respect to urban spatial restructuring processes, but at the same time we notice an important shortcoming in this theoretical tradition: processes that are being held responsible for the provision of the built environment – the way in which the urban spatial structure is actually changed – are generally neglected. The interconnectedness of these different processes is demonstrated empirically in a case study of developments that took place in the region Noordoost-Brabant. It is concluded that institutional urban economic theory is only partially able to explain the observed developments. The dynamics of urban economic growth and the processes that underlie property market functioning should be studied in relation to each other.

Keywords: urban economic theory, real estate market, regional economic growth, real estate supply, the Netherlands.

1. Introduction

All cities are characterized by a continually changing spatial-economic structure: new developments taking place on the edges of towns, redevelopments of inner-city areas, renovations or demolitions of obsolete buildings, etc. The urban spatial structure is the outcome of processes taking place on the urban land and property market, where demand for land and property by firms, households and institutions meets with the supply of land and property by actors operating on the supply-side of this market. However – and this is

brought up by Ball (1986) and Healey and Barrett (1990) – the processes through which these changes in urban spatial structures have been accomplished have been almost completely neglected in economic theories of urbanization and urban development. Ball has argued that 'the built environment in urban theories is generally treated as a passive backdrop to other social processes' (Ball, 1986, p. 447). According to Ball, the neglect of the *provision of the built environment** has arisen because in urban theories the built environment is usually seen in functionalist terms, with emphasis placed on the *uses* to which built structures are put.

Healey and Barrett observe the same shortcoming in urban theory. 'The role of landownership, the organisation of the construction industry, the nature of the finance invested in urban development and the significance of intermediaries, from developers to property consultants, lie hidden or are given little more than a passing reference in many historical accounts of urban development (. . .)' (Healey and Barrett, 1990, p. 89).

In *traditional urban economic theory*† – characterized by a search for explanations for urban dynamics – only a one-way relationship between economic and spatial structures is recognized; urban spatial structures are explained with economic arguments: economic and technological processes shape the spatial structure of cities. Changes in the production system, the impact of new information technologies, or economic growth result in changing locational preferences of firms and, consequently, in the restructuring of urban areas. Besides, many authors have paid attention to the way the urban spatial structure functions as a condition for economic growth, looking for an answer to the question why one city operates more successfully than another.

The attention that is given in theoretical approaches to urban economics to the impact of economic processes on the spatial structure has resulted in an overemphasis on the demand side of the urban system: the locational preferences of firms and households are held responsible for urban development. It seems to be commonly assumed – in theoretical contributions – that the supply of land and property adjusts to the demand side and that the urban property market – on which the provision of the built environment takes place – functions perfectly as a go-between. Consequently, the property development process is not considered as a theoretical problem area. This study is based on a strong belief that supply/demand relations can be problematic in certain situations and that sometimes supply-side processes structure the dynamics of an urban system to a larger extent than is recognized in most urban studies. To be more precise: we argue here that in some situations the supply of building land and buildings does not come forward, despite the fact that there is a demand, and that in other situations supply-side actors (property developers, etc.) influence the location, price and type of new urban developments. Therefore, it is necessary to study the production of the built environment, the strategies of the agents who are involved in the development industry and the situations in which supply/demand relations on local real estate markets are problematic.

Central to this article is the question of which processes structure both the demand for and supply of office and industrial buildings and how demand and supply on these markets link

* Ball has defined the provision of the built environment as 'the production, exchange, distribution and use of a built structure. The actors involved may be landowners, developers, building firms, building workers, financiers, building owners and final users' (Ball, 1986, p. 455). We slightly extend this concept by adding the 'maintenance of a built structure' to this definition.

† In general three mainstreams are distinguished: neo-classical theory, Marxist approaches and institutional analyses.

up with each other.* It is our aim to show that on the one hand processes underlying the provision of the built environment – property development processes – *do* play a role in overall urban and regional restructuring processes, either stimulating or hindering urban and regional economic growth. In particular, attention will be paid to situations in which the supply of land and buildings do not come forward automatically. On the other hand, we will briefly analyse restructuring processes which take place on the demand side, resulting in changing locational preferences of firms and, consequently, in a restructuring of the demand for office and industrial buildings. The results of empirical research on migration of firms and property development processes that has been carried out in the region 'Noord-oost Brabant', in the South-east of the Netherlands, will be used to show some aspects of the links between economic growth and property market functioning – including supply-side blockages – in the Dutch case. At the same time, we will discuss the difficulties that occur with respect to empirical research in this field of study. We want to stress here that this article should be considered as a first attempt to hypothesize these links and *not* as an attempt to test empirically the 'missing links thesis'.

Section two provides an overview of studies concerning situations in which processes underlying the supply of land and buildings act as a constraint to economic growth. In section three we briefly discuss the shortcomings of urban and regional economic theory. Sections four and five reproduce the results of our empirical research, while section six contains some concluding remarks with respect to the chosen research method and the 'missing links' hypothesis.

2. Problematic supply/demand relations on urban land and property markets

In a growing number of studies attention is given to the meaning of supply-side constraints with respect to urban property market functioning. Concentrating on contributions in which the complexity of property markets is studied, we mention here, in what should not be seen as a complete list, Barrett and Healey (1985), MacGregor *et al.* (1985), Evans (1985), Perry (1986), Fothergill *et al.* (1987), Adams *et al.* (1988, 1993), Henneberry (1987), Gloster and Smith (1989), Adams and May (1991) and Healey (1991). These studies all concern the English urban property market. Surprisingly, we do not know of any studies on this subject carried out in the Netherlands. The functioning of the English property market is – probably rightly – considered more problematic, compared to the functioning of the Dutch urban property market. However, this is not a very convincing reason not to study the influence of supply-side constraints (or the reason why they are absent) on the Dutch urban property market. Besides, according to numerous complaints by municipalities, we have reason to believe that especially shortages of building land now increasingly block new housing developments in Dutch cities as well.

In most of the English studies empirical evidence has been sought with respect to the meaning of supply-side blockages related to urban economic growth. Supply-side blockages which are recognized by *neo-classical economics* are mainly monopoly land ownership and

* The present study focuses on the market for office and industrial buildings. The latter indicates buildings used by the manufacturing industry. The housing market and the market for retail property fall outside the scope of this paper.

constraints on supply caused by the planning system.* Besides, externalities may undermine the functioning of land and property markets. Externalities can be defined as 'benefits or costs which accrue to an individual, group, or firm as a direct result of consumption or production by another individual, group, or firm for which no price is paid or no payment is received' (Balchin *et al.*, 1988, p. 141). Both negative and positive externalities occur in markets, involving respectively non-market costs and non-market benefits between individuals/firms, individuals/individuals, or firms/firms. On the property market supply sometimes does not come forward despite the fact that there is a demand. This may be due to positive externalities; for example, the inhabitants of a city all benefit from an inner-city redevelopment project without directly paying for it (indirectly they do by paying municipal taxes). As a consequence, property developers do not want to develop it, because the revenues are not sufficient. Negative externalities do not lead to supply-side constraints, but may on the other hand force municipalities to intervene; for example, in a situation where a proposed development project will have undesirable side-effects municipalities may decide not to permit the development.

Several authors have argued that the availability of land for new developments may be problematic (see especially the studies by Adams *et al.*, 1988, 1993; and Gloster and Smith, 1989) and hinder new developments. Adams *et al.* (1993) have made an extensive study of the functioning of the land market in the Cheshire-Wirral corridor. They conclude that the insufficient supply of building land on high-quality locations indeed obstructs industrial growth. Their study is further supported by the work of Fothergill *et al.* (1987) on the functioning of industrial property markets. They, in turn, provide empirical evidence that not only a shortage in the supply of land influences regional industrial development, but also the way the production of buildings takes place. Firms building for their own use have different strategies compared to the property developers who build for the market. The former choose a location that is most profitable from the point of view of production; the latter only want to build on locations for which they are assured sufficient revenues. Besides, developers only want to build standardized buildings. Often they can be sure of a demand only for these types of buildings. This means that we must distinguish different kinds of producers. It is argued in the Fothergill-study that neo-classical economic theory with its concept of market imperfections fails to explain why industrial property markets do not always function smoothly. The pattern of industrial location is not only determined by the preferences of manufacturing firms but also by the supply of suitable land and buildings.

Market imperfections can also be the consequence of certain special characteristics of land and property. Land and property are not mobile in the same way as workers or machines; land and property are relatively expensive goods, they are durable, and there are financial and institutional constraints on their supply (note that market imperfections do not necessarily have to lead to problematic market situations). Fothergill *et al.* argue that market imperfections may result in a rigidity in patterns of industrial location. Finally, in an interesting study of conflicts in the industrial property market Henneberry (1988) analyses the dichotomy that exists between the aims of the occupiers and of the developers/funders of buildings. In two case studies, again in Great Britain, Henneberry shows that this can lead to

* See Evans (1987) and Cheshire and Sheppard (1989) on the way the planning system limits supply and Markusen and Scheffman (1978) on monopoly land ownership (all mentioned in Healey, 1991). Institutional economic theory provides a more detailed explanation of market imperfections. The institutional approach is discussed in Van der Krabben and Lambooy (1994).

conflicting interests between the two groups of actors and possibly prevents new developments from taking place.

Let us now turn to urban economic growth theory; we will discuss what we think is missing in these theories.

3. State of the art in urban economic growth theory: shortcomings

A wide range of studies have appeared dealing with *urban economic theory*. The big step forward was probably made with the work on neo-classical models of the urban system in the 1960s (Alonso, 1964; Harvey, 1992), followed by early-Marxist approaches to urban problems in the 1970s (Castells, 1973). In the 1980s a variety of contributions to this field of research were made. Some of them elaborate on the Alonso model (for example, Needham, 1981; Evans, 1985), while others make use of the Marxist approach to urban systems. With respect to the latter, this has now evolved into what is called neo-Marxist theory (for instance, Harvey, 1982). Furthermore, a new 'tradition' was added to the field of urban economic theory, namely 'institutional analyses' (Bassett and Short, 1980; Lake, 1983, and, more recently, Healey and Barrett, 1990). Different types of studies can be lumped together under institutional analysis. For example, much attention is given to the influence of globalization and, paradoxically, localization trends and the transition of Fordist production processes to the present period of post-Fordism on the functioning of urban systems (for example, Castells, 1989; Amin and Thrift, 1992). Other authors have based their contributions on the ideas advanced by the 'New Institutional Economics'-School (Coase, 1937; Williamson, 1985); they focus on the restructuring of the demand by firms and a new locational logic in urban regions (Scott, 1990).

This should by no means be considered a complete overview of what has been produced in this scientific field (see, for this purpose, Bovaird, 1993). However, this introduction is useful, because it outlines the three traditions in urban economic theory that are adopted in the present study: neo-classical urban theory, Marxist approaches (divided into traditional and neo-Marxist theory) and institutional urban theory. A more detailed description of these theories is given by one of the present authors elsewhere (Van der Krabben and Lambooy, 1993). What is stressed here is – as was mentioned above – that in urban economic theory in general the production of the built environment is not a part of the theories' study objective and, consequently, is not treated as a problem area.

For example, in neo-classical models the land market has primarily an allocative function, structured by demand and the price mechanism, in a sense that land will be used for its most profitable use. In Marxist models attention is mostly drawn to the role of urban land rent which is seen as an expression of social relations within the urban system. The price that is paid for urban land depends on the power relations between land owners and other capital owners. The theoretical concepts of *institutional economics* have been adopted in urban theory as well, but only with respect to explaining locational choices of firms and differences in economic growth between urban regions.

The contributions in the three theoretical fields that are distinguished have in common the implicit assumption that a demand for land and buildings will automatically result in a supply of these goods.* However, in this article it is *explicitly* assumed that driving forces on

* However, in each of the disciplines exceptions to this rule can be found: neo-classical supply-based models (Needham, 1981; Needham and Lie, 1993), Marxist analyses of the role of finance capital (Beauregard, 1991; Berry and Huxley, 1992), and institutional analyses of the development industry (Healey, Davoudi, O'Toole, Tavsanoglu and Usher, 1992; Healey, 1993).

the supply side of the property market influence the location, the amount, the type and the costs of property development. Moreover, they will influence the point in time when property development takes place. From this, it can be expected that urban economic growth is affected as well.

At least five different lines of argument illustrate the plausibility of this hypothesis. First, in locational choices of firms two different steps should be distinguished: the selection of a region and the selection of a location in this region. The first, the selection of a region, can be explained satisfactorily with the help of *demand-side theoretical approaches* regarding locational choices of firms; the latter has nothing to do with the driving forces which are distinguished in urban economic theory. The selection of a location within a region depends on the availability of land, the price of land and property, the supply of industrial buildings or offices, vacancy rates and the willingness of property developers and financial institutions to invest in new property. In empirical studies of locational choices by firms these aspects appear to be ignored.

Second, the problem of locational inertia impedes regional economic growth to a certain extent. Often, firms are located in obsolete buildings that hinder the growth of production and the implementation of new technologies by these firms. The problem of locational inertia is in many cases a financial problem: large, specialized, second-hand industrial buildings have a low market value which makes them difficult to sell. As a result, firms have to stay in these obsolete buildings, in spite of the fact that the location may be unfavourable or that expansion of production is not possible.* Moreover, in probably every town parts of the spatial structure are characterized by these obsolete buildings. As a consequence, new building developments sometimes have to be located on less favourable sites.

Third, although in principle it can be argued that a demand for new buildings will lead to new property development (or, of course, the occupation of a vacant building), there will always be an allocation problem. One characteristic of the production of property is that it takes a relatively long period before it is completed. This time lag between demand for a new building and completion affects the level of economic growth in a region (for instance, when developers do not want to build speculatively in a specific region and office space is, as a result, not directly available, then a company looking for office space may decide to move to another region).

Fourth, (and this ties in with the previous argument) because of the special characteristics of the real estate production process, different groups of actors are involved in the production of land and buildings. The strategies and interests of these groups of actors influence the property development process and therefore possibly also urban economic growth (for example, a financial institution's decision to invest in property depends, among other things, on the returns that can be made on investments in other investment opportunities such as government bonds and shares).

As a final argument we mention the fact that a discrepancy might exist between development costs and development value. When development values are low, development costs may be relatively too high, with the result that developments fail to occur, despite the fact that there is a demand for new buildings at existing market prices. For, in this case rent

* Fothergill *et al.* (1987) have studied, with respect to the manufacturing industry, to what extent the problem of locational inertia actually exists in Great Britain and what the consequences are. In the Netherlands, this problem has not been studied yet. However, it may be expected that in the Netherlands it is of less concern, because the quality of the existing (industrial) building stock is probably better.

levels cannot be lowered, since development costs would then exceed development value which is linked to the rent that is paid.

The above points demonstrate that an alternative approach is needed to explain urban spatial-economic restructuring processes. It seems odd that the *production* of the built environment, which is closely linked to and influences the development of spatial structures, is neglected in traditional urban theory and is regarded as a fairly isolated and specialized area of study. In such an approach, processes responsible for changes in the production system have to be connected to processes responsible for property market functioning. In the next section we analyse successively changes in the economic structure of a region in the south-east of the Netherlands ('Noord-oost Brabant') and new building developments in the main city of this agglomeration ('s-Hertogenbosch).

4. The economic structure of the region Noord-oost Brabant

Sections four and five present, respectively, empirical data on regional economic potential and economic change – indicating the attractiveness of a region – and on new building developments and the organizational structure of the development industry in 'Noord-oost Brabant'. The case study emphasizes the *mutual* relationships between these economic and spatial restructuring processes. It is meant to illustrate the hypothetical links between supply-side driving forces on the real estate market, spatial restructuring and regional-economic change.

Various indicators can be used to map out the dynamic processes that are responsible for shifts in a regional economy; e.g. Regional Gross Domestic Product, the economic potency of a region or the expected economic growth for each sector of the economy, the mutation balance of firms, etc. In this section, a number of these indicators will be used to analyse the economic structure of the 'corop-region' Noord-oost Brabant (main city: 's-Hertogenbosch).

Figures 1 and 2 show the regional-economic potency of the manufacturing industry and the informational sector in the Netherlands respectively. (The informational sector consists of banks and insurance companies, private research organizations and commercial services.)

The economic potential of the manufacturing industry in Noord-oost Brabant is high, while the economic vitality of this region for the informational sector is medium.

In Table 1 the production level by type of economic activity in Noord-oost Brabant is compared with the production levels for the country as a whole. It can be concluded from this table that the growth in the 'trade sector' (wholesale and retail) in Noord-oost Brabant has been above average. The growth of the service sector was highest during the period 1971–87, but this is not different from the average figures for the national growth of this sector. Finally, the growth of production in the building sector was lower in Noord-oost Brabant compared with national growth figures.

Another source provides information about the mutation balance of firms in the Netherlands (Table 2). With the help of this information the attractiveness of a region for firms can be measured.

This table shows that the province of Noord-Brabant has a relatively large (and growing) immigration surplus. In the industrial, trade and service sectors Noord-Brabant attracts especially firms from Zuid-Holland and Gelderland. During 1988/89 445 firms left Noord-Brabant, while 534 firms established themselves. The absolute number of firms that moved from one region to another in the Netherlands strongly increased. In 1986 2800 firms moved

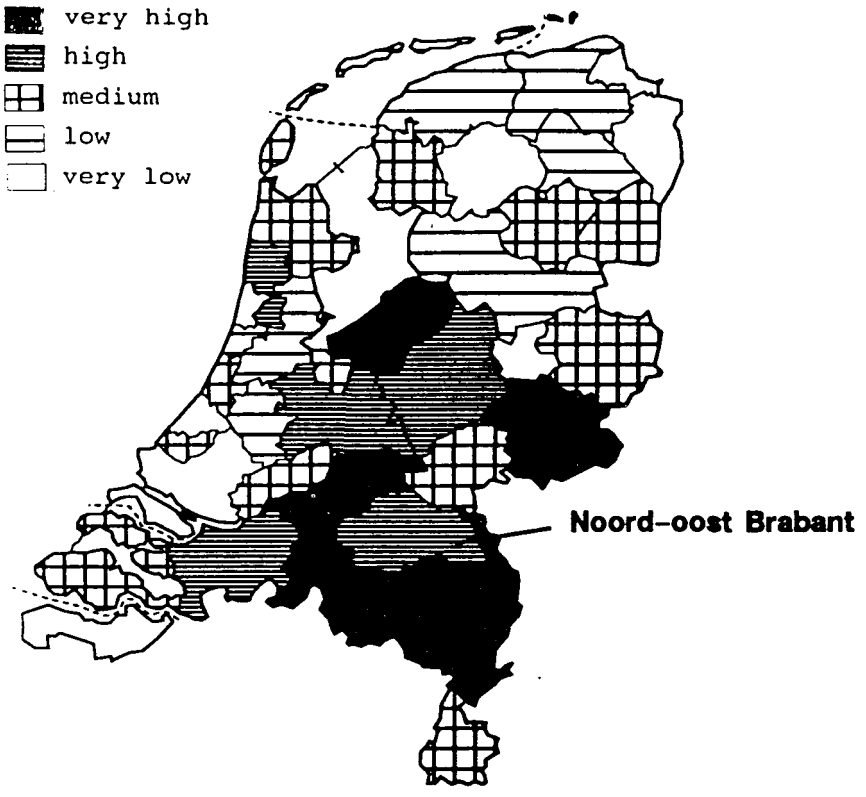

Fig. 1. Regional-economic potential of the manufacturing industry in the Netherlands (Source: Louter, 1991, Zuid-Limburg in beeld, E.G.I., Rotterdam.)

to another region; in 1989 this number increased to a total of 4400 firms (+57%). In the service sector the number of inter-provincial migrations even increased by 67% (source: Kemper and Pellenbarg, 1991, p. 250). The share of inter-provincial mutations in the total amount of migrations is small: in 1989 approximately 10% of all the firms that looked for a new place of business ultimately moved to another province. (However, there is a tendency for this share to grow, especially in the 'commercial services' and 'wholesale' sectors.)

It is not surprising that the number of 'movers' in the service sector is larger than in the industrial and retail sector. Service sector-firms are generally more mobile, because they usually rent office space to which they are tied only for the length of the contract. To industrial firms a removal often causes financial problems, because it is difficult to sell their old, specialized industrial property. Locational inertia are therefore more common on the industrial property market than on the office market. In the retail sector the number of interregional migrations is small. This is because firms in this sector are mostly tied to a local market.

Tables 3 and 4 refer to the number of changes of firms in Noord-oost Brabant. From Table 3 it can be concluded that the migration balance fluctuates substantially from year to year, but is modest in absolute terms. However, between 1986 and 1991 the number of both 'immigrations' and 'emigrations' almost doubled. One of the effects of the growing number of

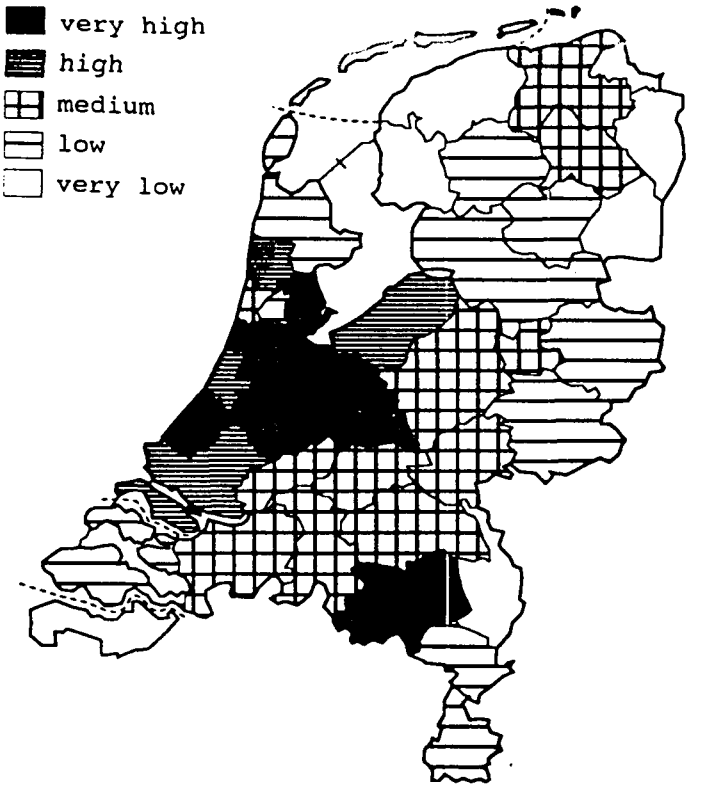

Fig. 2. Regional-economic potential of the informational sector in the Netherlands (Source: Louter, 1991, Zuid-Limburg in beeld, E.G.I., Rotterdam.)

Table 1. Production by economic sector in 1971, 1981 and 1987 (in million gld.)

	1971		1981		1987		mutat. 71–87 (%)	
	Noord-oost Brab.	NL	Noord-oost Brab.	NL	Noord-oost Brab.	NL	N-O Brab.	NL
Agriculture	261	7248	639	14 570	790	17 694	303	243
Industry	1548	40 142	2822	92 830	3954	105 654	255	263
Building sector	362	8879	744	23 120	813	23 026	225	259
Trade	691	29 314	2084	74 250	3003	95 563	435	326
Services	1142	38 538	4078	136 124	5234	175 143	458	454
Total	3604	124 121	10 367	340 894	13 794	417 080	383	356

(Source: Regional Statistics; reworked EvdK, FB.)

Table 2. Interprovincial migrations of firms, 1988–9 (industrial, wholesale and commercial services sectors)

	establishm. industry, wholesale, comm. services												Total		
Provinces	Gr	Fr	Dr	Ov	Fl	Ge	Ut	NH	ZH	Ze	NB	Li	saldo	imm.	emi.
Groningen		−8	−10	0	−1	−9	−9	−12	1	1	0	1	−46	84	130
Friesland	8		−4	−7	2	4	−3	0	4	1	−2	−1	2	93	91
Drenthe	10	4		3	−2	−2	3	2	5	0	6	−2	27	128	101
Overijssel	0	7	−3		−4	−13	−12	−8	−3	0	−2	2	−36	192	228
Flevoland	1	−2	2	4		0	13	48	−4	−2	4	2	66	161	95
Gelderland	9	−4	2	13	0		16	6	3	6	−31	−5	15	494	479
Utrecht	9	3	−3	12	−13	−16		63	36	2	−1	6	98	647	549
N-Holland	12	0	−2	8	−48	−6	−63		54	3	1	8	−33	815	848
Z-Holland	−1	−4	−5	3	4	−3	−36	−54		−6	−69	4	−167	748	915
Zeeland	−1	−1	0	0	2	−6	−2	−3	6		−5	1	−9	67	76
N-Brabant	0	2	−6	2	−4	31	1	−1	69	5		−10	89	534	445
Limburg	−1	1	2	−2	−2	5	−6	−8	−4	−1	10		−6	144	150

(Source: Kemper and Pellenbarg, 1991; reworked EvdK, FB.)

Table 3. Immigration and emigration of firms by sector in Noord-oost Brabant (in absolute figures)

	Immigration			Emigration			Migration balance		
	1986	1989	1991	1986	1989	1991	1986	1989	1991
Agriculture	5	1	4	4	0	1	1	1	3
Industry	9	20	23	13	21	16	−4	−1	7
Building sector	9	5	14	6	17	12	3	−12	2
Wholesale	46	37	59	19	37	61	27	0	−2
Retail sector	13	12	23	12	20	16	1	−8	7
Commercial services	60	68	130	43	119	120	17	−51	10
Non-commercial services	12	12	20	12	15	23	0	−3	−3
Other	27	32	73	61	39	76	−34	−7	−3
Total	181	187	346	180	268	325	1	−81	21

(Source: Chamber of Commerce 's-Hertogenbosch; reworked EvdK, FB.)

Table 4. Mutation balance of firms (including immigrations and emigrations and new establishments and closures) in Noord-oost Brabant (in absolute figures)

	Appeared			Disappeared			Growth balance		
	1986	1989	1991	1986	1989	1991	1986	1989	1991
Agriculture	27	33	46	15	11	17	12	22	29
Industry	177	185	203	60	101	95	117	84	108
Building sector	121	148	195	45	86	67	76	62	128
Wholesale	320	394	458	117	171	259	203	223	199
Retail sector	316	320	336	197	261	304	119	59	32
Commercial services	441	606	843	145	276	348	296	330	495
Non-commercial services	258	280	331	147	166	209	111	114	122
Other	249	303	358	174	80	111	75	223	247
Total	1909	2269	2770	900	1152	1410	1009	1117	1360

(Source: Chamber of Commerce 's-Hertogenbosch; reworked EvdK, FB.)

mutations is a more dynamically functioning property market, since more office and industrial buildings will change hands.

Table 4 contains all mutations of firms, including immigrations and emigrations and new establishments and closures. The increase in the growth balance between 1986 and 1991 must to a large extent be ascribed to the growth of the 'commercial service sector'. The number of new establishments in Noord-oost Brabant is relatively large; therefore, it can be argued that this region functions as a 'breeding ground' for new firms and also as a base for innovations. The developments in the industrial sector again show a much less dynamic image.* The growth balance reflects (part of) the extra supply of corporate buildings needed in this region.

* With respect to the developments that take place in 's-Hertogenbosch (the main city) figures are only known for 1989. In that year 490 firms were newly established, 216 firms were closed, 70 firms migrated to and 113 firms migrated out of the city. So, there was a negative migration balance of 43 firms.

The growth of production activities of existing firms in the region, resulting in a need for more office and/or production space – either at the present location or a new one – also generates an extra demand for buildings. In this case, the growth of regional productivity can be considered as a *gauge* for the level of demand. (*Intraregional* movements of firms do not affect the volume of the building stock – except when the old building is demolished – because the building that is left by the moving firm is normally added to the total supply of buildings.) The level of demand for new buildings in a region is, in theory, defined by the sum of the outcome of the mutation balance, the need for more production space resulting from the growth of productivity of firms already located in this region, and the number of new buildings needed after the demolition of the old building.

In general, the newly established firms are small in size (number of employees). The growth in the number of firms situated in Noord-oost Brabant mainly took place in the category 'less than five employees' (Table 5). Still, the number of firms with more than 50 employees increased from 266 to 356. Theoretically, this must have led to a considerable increase in the demand for buildings.

Table 5. Total number of firms by size in Noord-oost Brabant

	1986	1989	1991
<5 employees	15 577	17 569	19 007
5–49 employees	2638	2989	3512
50–99 employees	150	197	200
>100 employees	116	137	156
Total	18 481	20 892	22 875

(Source: Chamber of Commerce 's-Hertogenbosch; reworked EvdK, FB.)

Fundamental in the context of this paper is that the dynamics of regional economic growth directly influences the demand for new buildings – both the absolute level of demand and the type of demand. In the next section the supply side of the land and property market will be analysed. It will be argued that, in turn, supply-side factors affect regional economic growth.

5. The functioning of the property market in 's-Hertogenbosch

In 's-Hertogenbosch, the main city of the corop-region Noord-oost Brabant (as from 1 January 1991: 92 000 inhabitants), new building developments in the period 1988/91 were analyzed (see also Boekema and Van der Krabben, 1992). In the research period (1988 – May 1991) a total of Dfl. 918.8 million was invested in the built environment.* Figure 3 shows that investments in housebuilding (51% of the total) were relatively stable, as

* £1 = Dfl. 2.82 (prices April 1994).

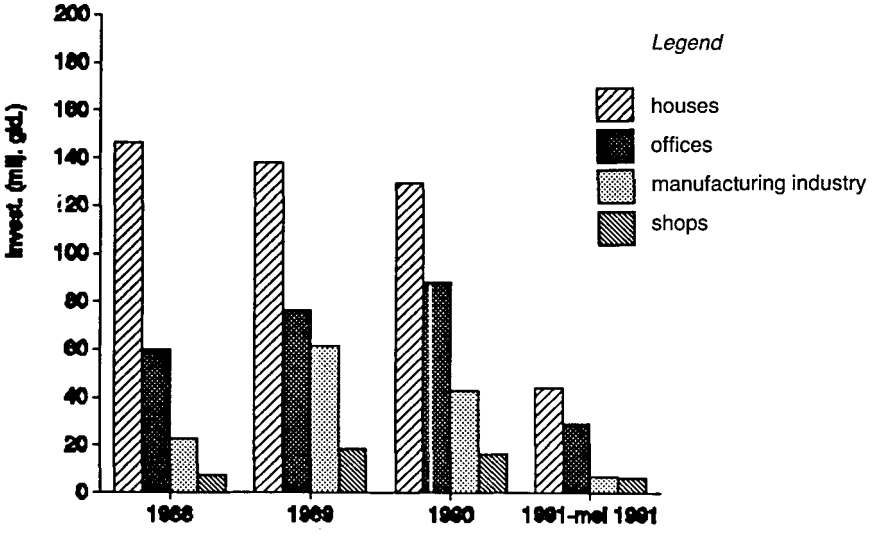

Fig. 3. Building investments by sectors, p.a.

opposed to investments in offices (28%) and industrial buildings (15%), which fluctuated from year to year.* The investments in shops and shopping centres (6%) were invariably low.

Table 6 shows the building investments by commissioning agent. The property developers, mainly operating on the housing and office market, account for almost half of all building investments (on the office market, property developers account for 54.3% of all investments, while on the industrial property market their share is only 20.4%. It is their intention to sell the property after completion, either to a financial institution or to the final user. 'Development gains' are the main driving force behind their investment strategies on the property market. Therefore, they only build those properties for which there is a large and ready market. (Generally, they will not start building until a large part of the office building is pre-let.) 'Other companies', which build for their own use, are in second position with 26.2% of all investments. The share of the financial institutions in this table is very small. Apparently, they try to minimize their risks. Hence, they are willing to participate only at a later stage of the development process (as purchasers).

This means, among other things, that both property developers and financial institutions lay down certain conditions with respect to location. In towns outside the Randstad (the Dutch 'megalopolis' consisting of the cities of Amsterdam, Rotterdam, The Hague and Utrecht), like 's-Hertogenbosch, where office rents are lower and total demand is smaller, they require higher yields (because of higher risks).

It is important to notice that the processes underlying the development of commercial property are different from industrial property development processes. On the office market

* A comparison with the results of a study that was carried out by Lukkes *et al.* (1987) in Arnhem, Enschede en Groningen shows that the building investments in Den Bosch are at a relatively high level. In Arnhem, the average building investments per annum (during the research period 1979–84!) amounted to Dfl. 228.0 million, in Enschede Dfl. 169.0 million and in Groningen Dfl. 279.0 million. These three cities, however, outnumber 's-Hertogenbosch's inhabitants. So, differences between building investments per inhabitant per annum are more remarkable. In 's-Hertogenbosch, building investments per inhabitant amount to Dfl. 2990 p.a., while in Arnhem, Enschede en Groningen it only comes to Dfl. 1780, Dfl. 1170 and Dfl. 1660 per inhabitant p.a. respectively.

Table 6. Investments 1988–May 1991; by type of commissioning agent

	Number of records[a]	Investments (in mill. Dfl.)	Percentage
Private persons	1144	58.9	6.4
Property developers[b]	250	440.5	47.9
Other companies	527	241.0	26.2
Municipality	50	4.9[c]	0.5
Financial institutions	8	16.5	1.8
Housing associations	–	125.4	13.6
Unknown	–	31.6	3.4
Total			100.0

[a] 'Number of records' refers to the number of requests for building permits.
[b] 'Property developers' include property developers, building companies and property companies; 'other companies' are mainly companies that build for their own use.
[c] The investments by the municipality do not include the investments by the housing department; these are reckoned to the investments by the housing associations.
(Source: municipal statistics.)

the development process is not only shaped by the *productive* demand for offices, but by the *investment* demand as well. Particularly at the end of the 1980s property development seemed to be partly 'driven' by the flows of capital from the finance capital into the built environment; commercial property is, on a large scale, developed speculatively. On the industrial property market however, investment demand is only of minor importance.

The municipality influences the development processes on the property market in several ways. Probably the most important characteristic of the Dutch property market is that municipalities develop almost all the building land.* After the development process has been completed, the municipality keeps a large part of the land, namely that which is used as public space (roads, etc.). The remaining part is sold to companies, households, and developers; usually the municipality decides – not always on the basis of economic reasons – which developer is allowed to develop the real estate. With the help of both land policy instruments and town planning instruments the municipality is able to determine the location of new developments. Sometimes, the municipality even makes very strict demands on new developments. For example, property developers have to meet strict requirements with respect to the types of new buildings and on some business sites only a specified group of users is allowed to rent the offices. Moreover, commercial property developers are not allowed to build speculatively, to prevent undesirably high vacancy rates in the existing building stock; building permits are only issued if the building has already been let or sold. In 's-Hertogenbosch, the supply of business sites is concentrated on three recently developed highway locations, Pettelaarpark, De Herven and Soetelieve Noord. In the near future a new office park will be developed near the railway station (Fig. 4).

* One of the consequences of the municipality's land policy – and this applies to most Dutch towns – is that the urban land is not marked by scarcity or uncertainty. As a result office rents and commercial property values are low, resulting in low yields on property investment. This influences the investment strategies of financial institutions and property developers.

The development of these business sites was highly successful. In the research period, the property market in 's-Hertogenbosch was very active, which is in line with the developments generally shown by urban real estate markets during the second half of the 1980s. In 's-Hertogenbosch this is expressed in the *extra demand* that is generated: a demand by originally non-office users who before had been situated on traditional business sites, and by office users coming from other regions. However, the attraction of Pettelaarpark and De Herven in particular has caused higher vacancy rates on the traditional business sites (De Rietvelden). It is also remarkable that building developments in the city centre are at a low level. This is due to the fact that recently no large building sites have been developed in the city centre. Besides, for the coming years further developments are under threat, because the supply of new building sites is limited. The municipality fears that the investors will move to other cities if not enough high-quality locations for new developments are available.

6. Discussion and conclusions

It is argued in this paper that, in general, the attention in regional and urban economic theories is one-sidedly focused on the way the internal dynamics of firms structure the spatial patterns of cities. Apparently, in these theories it is assumed that the processes of change progress unproblematically and smoothly. Instead, the present authors maintain

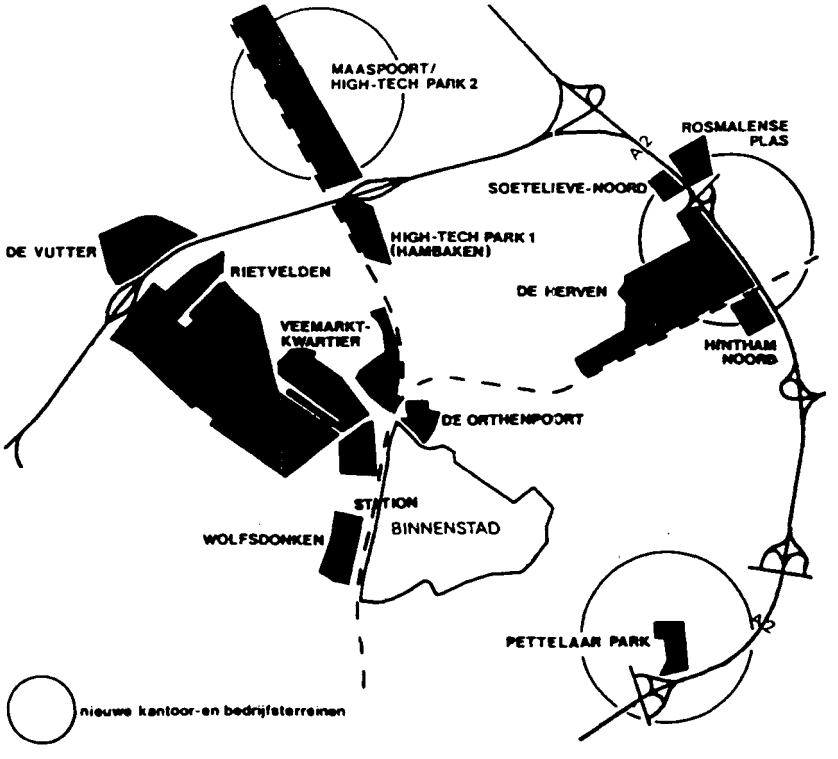

Fig. 4. Business sites in 's-Hertogenbosch.
(Source: Kantorennota Gemeente Den Bosch, 1989.)

that the processes which are directly responsible for the changes in the spatial structure of cities – the production of the built environment – should be studied explicitly. Therefore, the mechanisms underlying the supply of land and buildings must be analyzed, alongside the economic processes defining the level and type of demand for land and buildings.

The findings in Sections 4 and 5 do not yield a complete picture of these relationships. However, the description of both the economic structure of the Noord-oost Brabant region and the functioning of the property market makes clear that different mechanisms define the demand for and supply of land and buildings and, at least equally important, that these mechanisms do not automatically correspond with each other, simply because the groups of actors involved have different interests and different strategies.

From section 4, in theory, the amount and type of demand for land and buildings (offices and industrial buildings) in the region of Noord-oost Brabant can be deduced. An extra demand for buildings arises from either the immigration of a firm from outside the region into Noord-oost Brabant, the establishment of a new firm, the growth in production from an existing company, or from an existing firm moving into a new building, while the old building is demolished. An important conclusion is that the service sector operates much more dynamically than the industrial sector: the number of 'movers' in the service sector is larger.

We can hypothesize now about the links between regional economic growth and property development processes in the Noord-oost Brabant region as follows. The substantial increase in the number of migrations in this region between 1986 and 1991 (see Table 3) has brought about an increase in activity on the real estate market: a growth of transactions on the market for *second-hand buildings* and an increase of new building developments (because not all remaining buildings are suitable for renewed occupancy). The latter development is strengthened by the growth of the economy. Several aspects which are related to this *mechanism* are of interest. First, the growth of property transactions and the rise in new building investments imply a more prominent role of the intermediary agents on the real estate market, real estate agents and property developers respectively; the organization of the development industry changes. Second, undesirable side-effects may appear in the form of, for instance, vacated, obsolete buildings in run-down areas and a shortage of locations for less profitable functions (like social housing). Third, positive side-effects as a result of the increased activity on the urban real estate market arise as well. For example, in 's-Hertogenbosch the area around the railway station will be redeveloped – a large amount of office space is currently being produced – resulting in a necessary, continuous renewal of the built environment.

Fourth, the large number of firms moving to the region of Noord-oost Brabant directly affects the demand for new buildings in this region and has therefore created a scarcity of available business sites. As a consequence, land prices, office rents, and commercial property values have risen, resulting in more expensive business accommodation on the one hand and capital and development gains for the present owners and the property developers respectively on the other hand. Besides, for municipalities it means a considerable growth in revenues from land sale!

Fifth, both the increasing amount of capital that financial institutions poured into the built environment during the 1980s and the changing demands on locations and type of buildings by companies have led to the destruction of capital since buildings are becoming obsolete sooner in functional terms.

The opposite is also true, that the special characteristics of real estate markets influence regional economic growth in a number of ways. First, the municipality, as a land developer,

affects the firms' choice of where to establish themselves in two ways. The municipality decides which locations will be developed for new business sites and, moreover, sets conditions for establishment for certain business parks based on the type and size of the companies. This affects at least the freedom of choice for companies. Second, above it is argued that service-sector firms are more mobile than industrial firms. We can add to this that commercial property development (office buildings) – driven by both an investment demand and a productive demand – takes place on a larger scale as well. For property developers, the driving force behind property development is the short-term gain from developing the building and selling it to either the final user or a financial institution. They are not concerned with the existing building stock; so, the sooner buildings are written off, the better for them.

Third, the functional ageing of the existing building stock is visible in 's-Hertogenbosch in the older business parks, resulting in high vacancy rates and the negligence of sites and buildings. While new business parks are continuously developed, it is inevitable that other areas become run-down. A considerable amount of government money is needed to revitalize these areas. Finally, it is characteristic of the production of property for an allocation problem to exist. A property developer's response to a demand for buildings is always delayed, because it takes a relatively long time to develop a new building. To avoid this problem a developer may decide to build speculatively, but then he risks (temporary) vacancy and capital losses. Although, in the case of 's-Hertogenbosch – we do not have any empirical evidence that supply-side blockages actually constrain the level of demand for new buildings, it can be hypothesized that it is *characteristic* to the functioning of real estate markets that market imperfections (i.e. there is a demand, but the supply does not come forward at the right time and/or at the right place) occur and hinder economic growth.

What we intended to do in this article was both emphasize and clarify the mutual relations between urban economic growth and the development of land and property. These relations are *hypothesized* in this final section; the testing of these hypotheses remains to be done. However, it may prove difficult to find *empirical evidence* supporting our thesis that these relations are of more importance than is generally assumed in urban economic theory. In a complicated market situation, which are quite common on urban real estate markets, causal links are hard to reveal. In another paper, institutional economic theory is used to theorize supply/demand relations on urban land and property markets (Van der Krabben and Lambooy, 1994). Although operationalization problems remains, it is believed that such an approach can be helpful in explaining the links between urban economic growth and land and property development.

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